

## **Questioning Techniques for Gifted Students**

**There is a difference between nurturing the gifts of all students and providing an appropriate education for gifted students. Gifted students need educational experiences that match their different ways and rates of learning.**

Intense curiosity, high motivation, the ability to generalise, abstract and see relationships, problem-finding and problem-solving ability and acute sensitivity are characteristics and behaviours commonly observed of students who are able to learn at rates and levels of complexity in advance of their age peers.

**Gifted students should be supported to move beyond being simply consumers and users of information. They should become producers of new information** that adds to the knowledge in any given field. Appropriate learning activities must be integrated into a cohesive whole based on thoughtful planning to develop programs that are comprehensive, permanent, ongoing and related to individual needs, experiences and interests.

This can best be achieved in what has come to be known as a community of inquiry. This means an environment where we see participants building on, shaping and modifying one another's ideas, bound by their interests in the subject matter to keep a unified focus and follow the inquiry wherever it may lead. We would hear the kinds of questions, answers, hypotheses, ponderings and explanations which reflect the nature of inquiry as open-ended, yet shaped by the logic which has features both general and specific to each discipline or subject. The questions are as important as the responses.

### **Why is Questioning Important?**

Our experiences in the classroom and in teacher education have taught us that among the many skills required for building and sustaining a community of inquiry, those associated with formulating, asking and responding to questions have a special place.

**Questioning is a valuable part of the teaching-learning process because it enables participants (teachers and students) to establish what is already known, to use and extend this knowledge and then to develop new ideas. It also provides a structure to examine ideas and information.**

**Questioning is integral to developing reflective and metacognitive thinking.** It requires students and teachers to reflect on their understandings and can lead to changes and improvements in learning, thinking and teaching.

**The questioning process is the cornerstone of inquiry. It helps to:**

- extend thinking skills
- clarify understandings
- gain feedback on teaching/learning
- provide revision strategies
- create links between ideas
- enhance curiosity
- provide challenges

Children learn best in a supportive classroom environment where their contributions are valued. The kinds of questions asked, the way they are asked and the responses given, affect both the self-esteem of the student and their participation.

Teachers must provide the experiences to enable all students, including the gifted, to develop strategies that encourage expert questioning and problem solving and develop complex thinking.

In order to do this successfully, teachers must be able to understand the elements of good questioning, recognise different types of questions, design questions, which incorporate complex thinking and understand the importance of reflective and metacognitive thinking.

**Gifted students benefit from understanding exactly what a question is as well as what its function is.**

## **Types of Questions**

### **What is a Question?**

There are many reasons why we ask questions. We ask because we want something, because we want to know, or because we do not understand. The kind of question we use depends on the reason for asking. Different writers on the subject have categorised questions in a number of ways.

Some of the most common are:

1. ordinary
2. inquiry
3. complex
4. open
5. closed
6. rhetorical
7. divergent
8. Socratic

**However, there are also ESSENTIAL Questions – the big ideas...**

**Essential Questions** probe the deepest issues confronting us . . . complex and baffling matters which elude simple answers: Life - Death - Marriage - Identity - Purpose - Betrayal - Honour - Integrity - Courage - Temptation - Faith - Leadership - Addiction - Invention - Inspiration.

The greatest novels, the greatest plays, the greatest songs and the greatest paintings all explore **Essential Questions** in some manner.

**Essential Questions** are at the heart of **the search for Truth.**

Many believe that schools should devote more time to **Essential Questions** and less time to **Trivial Pursuit.**

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**Splitter and Sharp (1995), have five categories for questions; open, closed, ordinary, inquiry and rhetorical. Wilson and Wing Jan (1993), classify questions as open, closed, rhetorical and divergent.**

### **1. Ordinary Questions**

Most of the questions we ask are ordinary questions and children tend to ask these kinds of questions all the time. These are the questions we ask in situations where we want something we do not have, such as information, directions or food. We ask someone who we think will be able to provide what we are seeking. The question is closed when the item in question is provided. **The process of education must progress beyond this type of question, especially for the gifted.**

### **2. Inquiry questions**

Inquiry questions are different from ordinary questions. With these, the questioner does not assume that the person questioned knows the answer. Responses do not usually signal closure, but are likely to stimulate further inquiry. The process of inquiry often begins with examination of the question. This is part of the problem-solving process.

### **3. Complex questions**

Questions, which involve complex thinking, require much explanation and detail in their answers and probably time to think and reflect. These questions are often called open or fat questions. They are often used to build up information, to allow for more personal responses and to generate further discussions and questioning.

Questions, which do not require any definite answer, are often used as introductory questions at the beginning of a session. Their purpose may be to set the scene for the content that is to follow by steering the thinking of the students in certain specific directions.

### **4. Closed or skinny questions**

Many questions we ask in the classroom require only a simple yes /no answer or a brief response. These are usually classified as closed or skinny questions. These questions do not require complex thought to reach the answer. They are usually used to recall information, assess prior knowledge or knowledge gained after teaching.

What really produces closure is neither the question nor the answer but the environment in which questions are considered. If the environment encourages the formation of questions as an important activity in its own right, and if it encourages students to use a variety of strategies regarding questions and activities as a step to further inquiry, then even closed questions may be open.

A *closed* question is one in which there are a limited number of acceptable answers, most of which will usually be anticipated by the instructor. For example, "What is a definition for 'adjective'?" requires that students give some characteristics of adjectives and their function. While students may put the answer in their own words, correct answers will be easily judged and anticipated based on a rather limited set of characteristics and functions of adjectives.

## **5. Open questions**

Open-ended or divergent questions promote open-mindedness and invite many answers or possibilities. They can stimulate the exploration of concepts and ideas and facilitate creative and critical thinking processes. Emphasis is on the individual. These are the kinds of questions that challenge students and their thinking. Open questions are generally contestable in that they leave us with more to think about and may not bring complete satisfaction.

An *open* question is one in which there are many acceptable answers, most of which will not be anticipated by the instructor. For example, "What is an example of an adjective?" requires only that students name "any adjective." The teacher may only judge an answer as incorrect if another part of speech or a totally unrelated answer is given. Although the specific answer may not be anticipated the instructor usually does have criteria for judging whether a particular answer is acceptable or unacceptable.

Both open and closed questions may be at any level of the taxonomy.

An open low-level question might be:

*"What is an example of an adjective?"*

An open high-level question might be:

*"What are some ways we might solve the energy crisis?"*

A closed low-level question:

*"What are the stages of cell division?"*

A closed high-level question:

*"Given the medical data before you, would you say this patient is intoxicated or suffering from a diabetic reaction?"*

## **6. Rhetorical questions**

Are not real questions because the questioner usually knows the answer. Teachers often use these questions to discover what students know about particular topics, but these questions do not foster inquiry nor do they involve students in their own educational endeavours.

## **7. Divergent questions**

Good thinkers and problem solvers have devised questions they ask themselves during the teaching/learning process. Metacognition involves the recognition of specific strategies such as self-talk and self-questioning used to connect thinking, plan processes and reflect on outcomes. Self-questioning models and techniques promote complex thinking and direct students to reflect on and assess their questions, responses and actions and identify areas for further investigation.

Wilson and Wing Jan (1993), give examples of the types of questions that promote divergent thinking

## **8. Socratic questions**

Richard Paul emphasises the importance of what he calls Socratic questions. These are questions which probe the underlying logic or structure of our thinking and enable us to make reasonable judgements. He discusses six types of questions.

### **A). Questions of clarification**

What do you mean by that?

Can you give me an example?

### **B). Questions that probe assumptions**

What is being assumed?

Why would somebody say that?

### **c). Questions that probe reason and evidence**

What are your reasons for saying that?

What criteria do you base that argument on?

### **D). Questions that probe implications and consequences**

What might be the consequences of behaving like that?

Do you think you might be jumping to conclusions?

### **E). Questions about viewpoints or perspectives**

What would be another way of saying that?

How do Maria's ideas differ from Peter's?

### **F). Questions about the question**

How is that question going to help us?

Can you think of any other questions that might be useful?

As can be seen by these examples, Socratic questions are open and if used appropriately can stimulate inquiry and exploration.

## **What is a Good Question?**

A good question is one that enhances and extends learning so it is important to know about the different kinds and where they fit in the learning environment. A good question should breed more questions and the desire to find answers. Good questions need to take the learner beyond the recall of basic information and challenge.

However it is important to ensure that the questions are appropriate to the learning situations and allow students to build on their prior knowledge and experience so they can make connections.

Often students need to be encouraged to ask questions about their learning experiences:

- i. Providing reflection time during and at the end of lessons allows students time to formulate, ask and discuss questions.
- ii. Involving students in planning and negotiating learning situations is a useful strategy.
- iii. Encouraging students to develop their own questions for planning and self-assessment is a skill that gifted students will benefit from.

### **Questioning tools**

There are a number of programs and strategies that can be used in the classroom. Information on all of these is readily available.

### **Bloom's (Anderson's) Taxonomy of Thinking**

This is a classification of thinking organised by level of complexity. It gives teachers and students an opportunity to learn and practice a range of thinking and provides a simple structure for many different kinds of questions and thinking. The taxonomy involves all categories of questions.

### **Thinker's Keys**

Thinkers Keys is a strategy used to develop creative and critical thinking designed by Tony Ryan, a consultant for Gifted and Talented Programs in Queensland. Each of the twenty keys is a different question, which challenges the reader to compose his or her own questions and come up with responses.

### **Question Matrix**

Chuck Weiderhold designed the Question Matrix in 1991. It contains 36 question starters asking what, where, when, which, who, why and how. These questions are asked in present, past and future tenses ranging from simple recall through to predictions and imagination. Proceeding through the matrix, the questions become more complex and open-ended. The questions range from mere use of memory to creative and critical questioning.

The Question Matrix may be made into cubes, cards, and spinners or divided into strips or single questions depending on the task.

The Question Matrix is a visual tool to assist students to create their own questions about topics. to encourage in-depth thinking. Students can become more independent at designing their own learning tasks. The opportunity for greater choice and flexibility and to follow up individual interests is facilitated.

The levels of Bloom's Taxonomy of Thinking can be linked to the Question Matrix. Questions along the top of the grid are knowledge questions. Questions along the bottom of the grid require analysis, synthesis and evaluation.

## **Six Thinking Hats**

Edward De Bono devised the Six Thinking Hats as a strategy to encourage students to look at a topic or problem or idea from more than one perspective. Each hat represents a different kind of thinking and therefore different kinds of questions.

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